Pacific Grove
July 26 1956

I kept your report for a while, assuming that you would not need it as long as you were in the field. Thanks a lot.

In the meantime I have seen something of the Western Gull and a little of Heermann's. Western is in everything a replica of our Herring Gull, except in the long call

Herring gull (a. argentatus, at least!)

I — wauk

II — throw-back — wleauk (meow)

III — after throwback gradually bowing — kleauk-kleauk-kl.kl.kl etc

Western — absent

no throwback, gradually moving to

series of 5 or 6 kleauks, equally loud, equally long, constant pitch

same call continues

(in mild clashes: call starts in oblique and stays there; often the head comes down a little while the series of calls is given)

Of Heermann's I saw only the long calls, they are about like this

throwback, then gradually

loud & high & long

(3-4/sec)

lower, shorter, quick succession

I further spent some time watching the "staring down". It has to do (autochthonously) with feet-cleaning: a bird which has something irritating on a foot (lifts it off, shaking it violently again and again, peeking at it.) did stare down all the time in between. But after mild hostile clashes it comes, regularly as a clock, ~~about~~ a second or so after the clash is over. I am convinced that Goethe is right in this latter point.

I could not do much more quill-watching.

Am looking forward to your final reports.

All the best

Yours ever

Niko Tinbergen

Seattle, 5, 1956
Dept. of Zoology

Dear Martin,

Thanks for your letter of May 12. You sure saw something of gull behavior! Tell me: do you want your report back, or shall I sendit on to Mike and Esther?

You must by now get a fairly good idea about the taxonomic relationships in the group. One thing seems to me obvious: the large gulls form a very closely knit group, and the ridibundus-type is another one, with ~~pipixcan~~, ridibundus and novae-hollandiae very close together indeed. Bonaparte's

It seems to me that w4 are approaching a stage in which one can see "primitive", original forms of display, one in this species, one in another. Thus you say that the alarm call of Belcher's Gull may be primitive. Your criterium is, I believe, that it is less different from the other calls than it is in most species. I got a similar idea as to the trumpeting call in the Glauvous-winged Gull: this is the only thing in which it differs from the Herring Gull; the single calls are all very much alike, and each is more drawn-out, and resembles closely the single keew-call as used for "Stimmfuehlung", just social contact. In the European Herring Gull, there are three phases, one a raw kaw, with in the oblique, then the throw-down or bend, with one or two smothered, high-pitched calls, then the throw-back to the oblique with a series of keews beginning with a loud and high pithced one, and then the rest with diminishing loudness and descending pitch, thehead gradually doming forward and down. The Glaucous-winged rarely does phase 1, it does the bend with the first call, then throws the head back slowly, and gives a very equal, level series of just rather long-drawn, no staccato keews. Because each is so similar to the general keew call this gives the impression of being closer to the original form. In all other displays and calls I can(t see nor hear any difference. Ecologically the species is more of an open sea fisher than our H.G., it does much more plunge-diving off shore. It has a dark eye, the wing tips are very light, a little darker than the blue mantle, and further the bird is a little stouter than our H.G. But after having seen this I begin to wonder how the various HGs behave. I think a close study of those very closely related species of the HG superspecies may become very interesting indeed.

I quite agree with your ideas about the redirected attack being primary in the grass pulling. I would be careful with the coining of the phrase "pseudo-displacement activities"; it is quite possible that all d.a. are in this sense pseudo, the name d.a. ought, I think to be kept as a provisional, descriptive term, and its causation should be worked out, but as long as we have not done this in more cases, I think the coining of a new term would suggest a dichotomy which need not be there; the term wouod imply that you know that there are real d.a. as distinct from the pseudo, and that we don't know yet. But it is extremely interesting that the redirected attack which in ridibundus is just that, should develop into either feeding drinking or nest building in Belcher's. In our H.G. it certainly develops only in grass pulling. It is another example of the possibility of finding the origin of a movement by comparative study, and then its radiation. One species may have the primitive form of one movement and another that of the other. Thus I believe that the Kittiwake shows a rather primitive form of choking, in which you can recognise the origin as throwing-down of nest material.

Once one would, in this way, movement by movement, have found the origina, it becomes of great importance to list exactly in what way the movement has changed in the courseof radiation, because that will give us ideas as to what can change in speciation, in the way of behavior mechanisms.

And all this seems to me to lead to so many intersting aspects, of evolution, taxonomy, behavior, that it will be a major job to work all this out. Publication of all the descriptive stuff may be difficult, and it may be necessary to keep the full reports as mimoe graphed reports, andperhaps publish short descriptive accounts in various journals (if you could do this in papers ~~mazat~~ of a size acc ptable to various ornithological journals, you might get them published with at least the drawings in such journals as Wilson Bulletin, Condor, Ardea etc (Ardea might accept a paper on a species that occurs in the West Indies)), and then general conclusions in Behaviour journals.

Another point: what do you think of wing tip patterns? I got the idea that they must be rather adaptive, inclusive perhaps mantle-color and color of under wing. It struck me that Hartlaub's gull has got the white front bar on the upper wide of the wing just as ridibundus and Bonaparte's, but that Hartlaub's has developed a rather canus-like wing tip pattern. Now it may be significant that at least in South Africa there is no other species that has the argentatus or canus-type; it is as if, for species-recognition, the species in each general region diverge. Usually, when the field ornithologist uses such a thing as a field character for diagnosis,(as in the wing and tail patterns of waders), it seems as if the birds themselves use it too. If so, Dwight would have taken a rather awkward character to base his classification on. But I can't see any practicable way of deciding whether these things are social signals or not, except perhaps: a. zoo observations in which species from all over the world would respond to flying species with similar wing patterns (as with the Geese in the Berlin Zoo), b. statistics about the wing patterns of species within one geographical area.

With all these things, I may be "talking wet", just knowing so much less than you do. I wish we could have another gull conference with you attending and showing your stuff. Whenever you would come to Europe, you need only tell us and we would all comverge on whatever roost you would choose to alight!

I guess you are well informed about new developments in Oxford? Desmond got a job in the London Zoo, Aubrey a lectureship in Edinburgh, Uli same in Birkbeck college, Fae a fellowship in California, David Blest a lectureship in University College. That looks like spreading the gospel indeed.

Our stay here is very pleasant and stimulating. I feel quite at home as usual, and there is a lot to see in the surroundings. We are extremely lucky with the weather, and marvel at the Cascades, the Olympics, the bird islands in the sound, and the giant volcanoes. Just last weekend I slept in a large glaucous-winged colony and could start watching from my tent at daybreak; saw all the displays many times, and could even take some pictures.

All the best, yrs ever

Niko Tinbergen

Philip Ewton, a poultry research job i Edinburgh!

Bonaparte's, June 17, 1955, I.

Watching birds on shore Dog Lake. All, apparently without exception, are first-year birds. Some are in almost complete nuptial plumage, some in somplete winter plumage. On the whole inactive; but they do react to my approach, occasionally chase each other or the Common Terns, and squabble over fence posts.

Have noticed the following hostile patterns:

Aerial Long Call Note. The buzziest and twangiest note of all. Long drawn. Could be transcribed as something like "Kaa-aa-aa-aah" or "Kaa-aa-aanh".

Series of Long Call Notes, in the air. Much shorter notes than the single Long Call Notes. Could be transcribed as "Kaaa-kaaa-kaaa-kaaa-kaaa....". Also very buzzy and twangy. Uniform pitch. Done by swiftly flying bird, with beating wings apparently. (Rather different from the complete Long Call on the ground, which has the usual form, and stretches through the O and F postures).

Alarm Call? Very short, buzzy note, impossible to transcribe, given by flying birds flying over me.

Gakkering. Possibly given by flying bird, certainly by standing bird, during disputes in which one is trying to force the other off its fence post. The standing bird gives it from a posture comme ca:

The sound itself can probably be transcribed as "Kakakakakakakakakaka...." with the usual buzzy quality, but in a definitely less extreme degree. Is this the same sound I heard at Buffalo?

Charge Call. Like a single Long Call Note; but not at all polysyllabic, harsher, very little twang, almost a scream. Apparently accompanies the Swoop.

Getting louder
towards the end, I think

Can be repeated at intervals
during Pursuit flight

Circling. Essentially like Ring-bill in physical form. Perhaps somewhat more erratic.

Erratic Flight. Reaction to human disturbance. Just like that of the Black-headed Gull, but even more extreme. May possibly occur in intra-specific encounters; but a little difficult to tell exactly what are the releasing and orientating stimuli in some of the doubtful cases.

Pursuit Flight Performance. I have only seen the Pursuer's patterns. Mostly chasing Common Terns. Have had a glimpse or two of intra-specific chases.

Swoop. With Pursuit Flights. Just like the diagonal Swoops of the Black-headed Gull and Franklin's Gull.

"Flying" Soar. Follows Swoops. Like ordinary Soar; but accomplished by beating wings.

Soar. Possibly occurs during some Pursuit or Erratic Flights; but must be rare (at best) and relatively inconspicuous.

The following incident may be significant:

One bird, disturbed by me, flies up. Into loose flock of Black and Common Terns. Flies round and about, up and down. Occasional Swoops and "Flying" Soars. Occasional sudden, extreme, downward plunges; with wings half-folded, motionless. Followed by flying up again. None of these Swoops or plunges were obviously directed at a particular object or animal; but they may actually have been so in reality. The whole performance was perhaps slightly reminiscent of some Erratic Flights or hawking for insects; but the bird apparently gave Long Call Notes in flight, and "looked" rather aggressive.

Additions, as a result of further observations in the evening. A large flock was assembled, including perhaps 60 birds, and also including a few adults in complete nuptial plumage.

There is definitely a complete Long Call in the air. Sounds just like the complete Long Call on the ground or water. Given by rapidly flying birds, beating their wings very rapidly, (this flight, surprisingly enough, is not particularly buoyant or tern-like --- in fact, I haven't yet seen any tern-like flight under any circumstances in this species). Accompanied by a very marked Oblique Posture, much more marked than anything in Franklin's Gull or anything I remember in the Black-headed Gull. The posture is almost reminiscent of the Little Gull's aerial Vertical posture. No sign of any aerial Forward posture. (All the observed aerial Long Calls were given by immatures).

An adult bird was heard to give definite Alarm Calls. Obviously

the same call as the one I cited earlier as "Alarm Call ?", but just a little different. Not as buzzy. Sometimes one note, sometimes two, sometimes three. "Keh" or "Keh keh" or "Keh keh keh".

All sorts of Swoops. Interspecific, toward me. Intra-specific, during Pursuit Flights after other gulls. Much as described above. Shallower than those of the Black-headed Gull and (perhaps) those of Franklin's Gull. Very rapid, with very rapidly beating wings. Definitely accompanied by one or two Charge Call Notes. These can be transcribed as "Keeeeeeeeeer" or "Kreeeeeeeeeee", (not really "Kwarr"), but this gives a very poor impression of them. Buzzy, but definitely scream-like. These notes stop as soon as the bird starts to fly up.

"Flying" Soar is the usual pattern after SWoops. Also relatively shallow.

This Swoop-"Flying" Soar routine, incidentally, is not unlike the behavior of Common Terns in similar situations. But the Swoop-"Flying" Soar of the tern is much steeper and more vertical.

"Typical" Soars also occur. Still relatively rare and inconspicuous. Occur after the most shallow Swoops.

Have seen quite a number of mutual Swoop-"Flying" Soar performances. Like those of the Black-headed Gull; like pendulums crossing.

Erratic Flights, or what I have been calling Erratic Flights, are remarkably common in these species. Whenever, for instance, I put up a flock of birds from the ground, a large proportion of them will start Erratic Flights, while it is only a much smaller proportion of them that will start Pursuit Flights, Swoops, etc. These Erratic Flights are very erratic indeed, with a terrific amount of twisting and turning, flying up and down, vertical plunges (sometimes for huge distances), etc.

They do not appear, very often, to be orientated. It is certainly my impression, however, that they are rather more than "alarm" reactions. I would not be surprised to find that they contained a strong aggressive element.

In general, it is obvious that all flights of this species tend to be more erratic than those of related species. This cannot be ascribed to the small size of the birds, (as Little Gulls and Terns are much less erratic); but it may, conceivably, be due to a combination of small size, plus short wings.

Bonaparte's, June 17, 1955, III.

Almost forgot. Watched adult bird, on post, displaying toward flying birds. Sometimes, when the flying bird was nearby, the display was a simple V. More often O-F-V, or just plain O-F. Looked almost like pairing behavior

Bonaparte's, June 18, 1955, I.

Had fewer opportunities to watch the birds today.

Must add a few words about the single adult bird, in complete nuptial plumage, mentioned yesterday.

Almost certain this was pairing behavior. Not only did the bird do "G.C"s toward all nearby flying birds, but it also made little circular flights in the interim (usually not very aggressive, no more than Long Call Notes), and occasionally attacked nearby birds on the ground, (I couldn't watch this very well, but the whole procedure was very reminiscent of territorial defense). A post, I suppose, is exactly what one would expect as a station in a tree-nesting gull. The displaying bird, unfortunately, got very little response from the flying birds. So, the adult would occasionally fly over to a nearby first-year bird on the ground, and would then apparently attempt an "M.C.". I definitely saw the adult do Oblique - Forward - Upright and Head-flagging - Head-tossing in these circumstances. Again, these didn't seem to get much in the way of a response.

Today, however, the adult may have succeeded partially. At least, one of the nearby first-year birds goes into a pronounced Upright, facing away from the adult, whenever the adult flies by.

I am beginning to believe that this adult bird must be a female. It is not very large, and it is not nearly as aggressive as some of the first-year birds. In addition, the fact that the adult did Head-tossing during its "M.C." is perhaps suggestive.

All the aerial hostile patterns I have observed in this adult seem to be essentially the same, perhaps identical, with those of the first-year birds. I have heard first-year birds give Alarm Calls exactly like those of the adult cited yesterday. I have heard the adult give a long series of Long Call Notes exactly like those of the first-year birds. I have also observed a Swoop-"Flying" Soar performance by the adult exactly like the corresponding performances by first-year birds. I can't detect any difference between the voice of the adult and those of the first-year birds. (Unfortunately, however, I have not yet observed a complete aerial Long Call and aerial Oblique Posture by the adult.)

More about glides, in both first-year birds and the adult. Both glide frequently in ordinary flight. Obviously quite unritualized. The first-year birds also glide very frequently during their Erratic Flights. (I have never, incidentally, seen a really good Erratic Flight by the adult). These glides during Erratic Flights may be either upward or downward. Sometimes quite prolonged --- relatively. They do not appear to be ritualized either; but they can be easily interpreted as ambivalent hostile activities. They are thus, in all probability, strictly comparable to those of the Ring-bill; but they seem to be confined to a rather different situation.

Bonaparte's, June 19, 1955, I.

Correction about the adult bird previously mentioned. Apparently a male. Attempted a forced copulation with one of the first-year birds. Just like Black-headed Gull. Copulation Call like that of the Black-headed Gull, except for the characteristic buzzy twang.

This adult continued its usual pairing behavior. Tonight, however, it did several diagonal Swoops and Soars (at Black Tern) during its little circular flights. These Swoops and Soars were exactly like those of the Black-headed Gull, in physical form. Couldn't hear accompanying call very well, but I think it was a "Plaintive Charge Call" (i.e. long-drawn screaming Long Call Notes) during the Swoop.

Still haven't seen adult give aerial Long Call in Oblique.

When I frighten a group of birds, they fly up, circle, silently. This can certainly be classed as a Silent Panic.

Watched an Erratic Flight performance this morning, involving two first-year Bonaparte's Gulls and one Common Tern. It was noticeable that these "Erratic Flights" of the gulls included definite Swoops and "Flying Soars", and that the Swoops were definitely directed, either toward the other gull or toward the tern. This was definitely a relatively aggressive performance.

A few additional remarks about "Gakkering". Often given by bird on post (first-year bird) when a flying bird tries to dislodge it. Characteristic sequence is "Gakkering" (in semi-U or semi-O posture, very well orientated, neck sometimes twisted, wings sometimes raised and/or spread) - Oblique - Forward. The "Gakkering Call" itself is harsh, rapid, and rhythmic. Very much like The Forward Call part of the Long Call. Possibly louder??? The rhythm of the whole usual performance can be indicated by the following diagram.

There seems to be a Landing Call. Given by both the adult and the first-year birds. Relatively rare, (as one might expect in the circumstances, as the birds either land far apart or fight over a small post). Can't say much about it. A series of Long Call Notes, getting successively shorter and deeper in pitch, I think. Probably has fewer notes than the Landing Calls of some other species.

The unmated adult is still here, and so are a few first-year birds, but the great bulk of the birds seems to have gone. Got very little today.

The unmated adult is still behaving as before; but much duller, as there are fewer birds around to encounter or to display to. He seems to have formed or re-formed his connection with a first-year bird. The latter stays around in his neighborhood, calls to him when he flies overhead, and goes into a U when he flies very near.

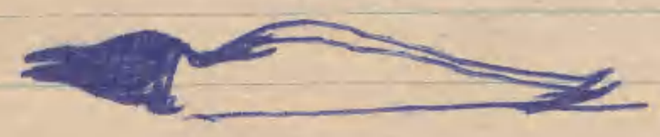
Notice that the Alarm Call of flying birds is often uttered with apparently closed bill. The adult gave continuous monosyllabic Alarm Notes as he circled around me, and repeatedly made shallow Swoops toward me and then moved away in shallow "Flying" Soars. Thus the Alarm Call must contain an appreciable element of attack drive.

Saw both adult and first-year bird give repeated series of Long Call Notes from completely relaxed, almost hunched, postures. This was definitely not a display posture.

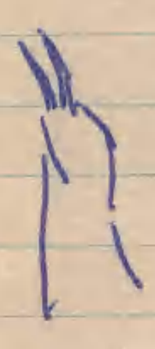
The voice of the adult, at moderate intensities at least, is definitely less buzzy, more of a scream, than that of his first-year "mate". The difference is slight, however.

Tuesday,
May 11

Damp Lake. Franklin's and Bonaparte's
2:00 p.m.
Bonapartes O-F mg on water.



very flat F



almost vertical V

Apparently pair. Both F-V. ♀ does HF and V-HF separately. V upon attack - lund in V attached - V after attack - V after being attached

F call is like ordinary Long Call, but not so penetrating, even buzzier, less syllabic, less like Blue-g. Long Call.

Ordinary posture looks almost vested  . White eye lines much less conspicuous than those of Franklins

MC. One bird. O-F-V-HF - dipping. Other bird.
F-O-F-V-HF-dipping

Bill apparently closed in some O's at least.

F is very short necked. Have seen it several times; combined with HF this last time accompanied by short buzz calls, rather harsh, definitely syllabic, bill opened widely for each note.
3:12

Saturday, April 24

Herring Gull.
A few resting on ice

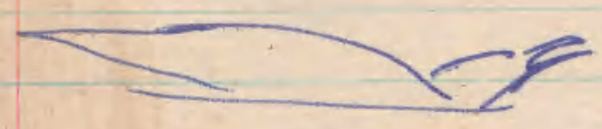
Ch. O. O. OLO. Toward flying herd 12:10 p.m.

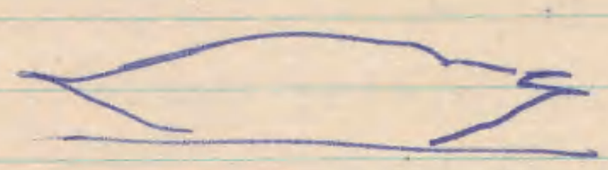
The O seems to be without head - Forming VVVVV O
V before attack V after attack V OO. OLO. to flying birds VVV
V. V. BAT. BAT. O. OLO. V. V. O. O.

Sunday, April 25

V after attack

Case of ♂ feeding ♀. First both O and F. (Bill nearly open in both) Then ♀ begins FB in hunched, fleet hersh





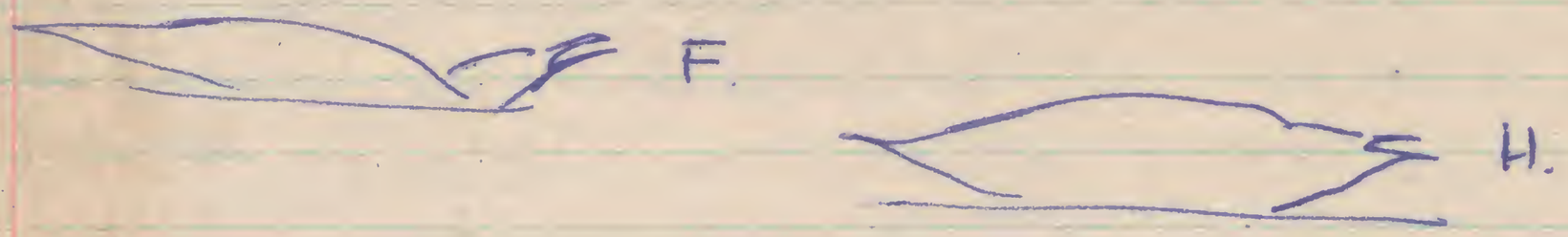
sounds, identical in quality with other calls (Long Call). (This is the sound I ascribed to F before). ♂ into V. Swings about. ♀ continues FB. (absolutely no tots ever). ♂ finally regurgitates. ♀ feeds. ♀ begins FB again, this time in semi-D, with HB. No response, breaks up. 3.45. (Male's V, during this episode, looked more aux than agg).

Wednesday
May 19

7:05 a.m. Flooded field near Delta. About 7-10 individuals Bonaparte's, more Franklins. Warm. Sunny. Slight wind.

Bonaparte's. O-F, O-F (mm, mm) Both the Obliques and Forwards much as seen previously. F call short chattering version of the Long Call.

Care of ♂ feeding ♀. Just both O and F. (Bill wide open in both) Then ♀ begins FB in hunched, fleet hersh



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Wednesday
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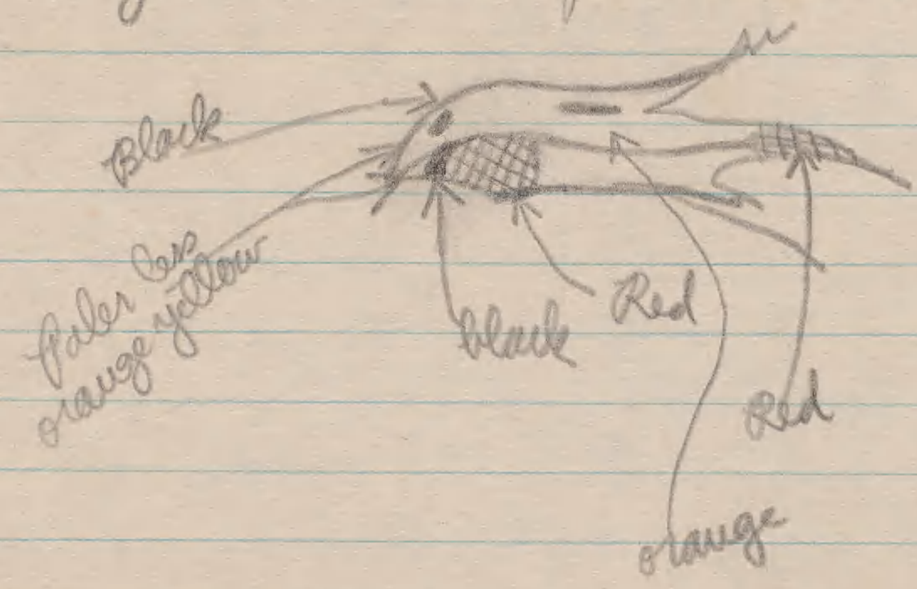
Bonaparte's. O-F, O-F ~~nnn~~ nnn Both the Obliques and Forwards much as seen previously. F call ~~short~~ chattering version of the Long call.

California, June 21, 1954, II

Monday,
June 21

California Gulls breeding right beside Herrings (but on marshy side of ridge → Ring-bills)

Flesh colors like Ring-bill... but: iris dark brown, orange yellow of bill (in one individual, but not in another,) slightly more orange. Blood red spot on lower mandible.



Mouth orange yellow inside — except at red corners

For L, need HD (head-down)

20 before attack V before attack V after attack O.

♂ releases ♀ ♂ nothing, ♀ V-HF.

O without pronounced turning. Definite, seen it twice more

LO LO.

P.P against pelican (lay off-bind) again & again & again (also lay on-bind) P before attack on Pelican.

California, May 11, 1955

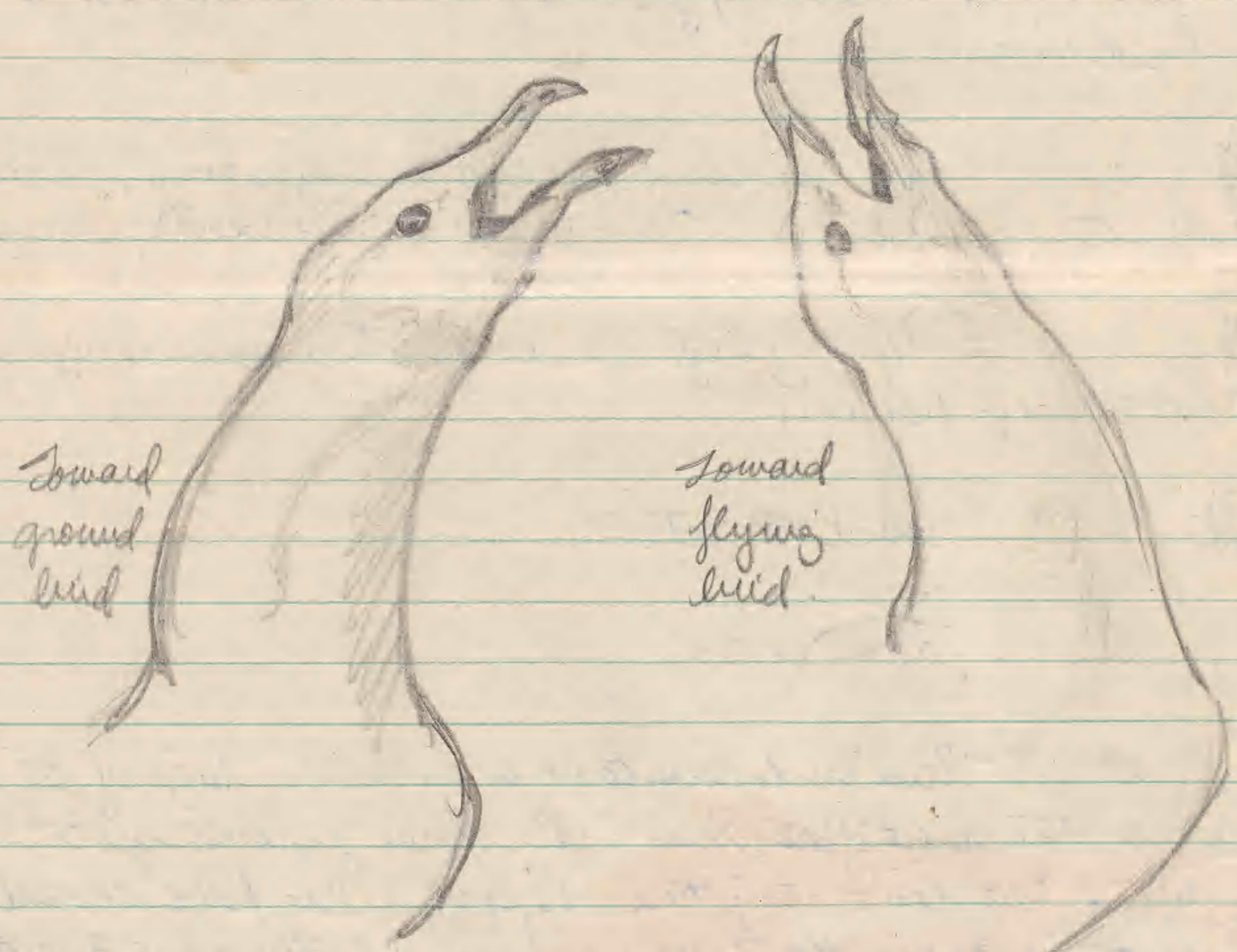
I

May 11, 1955

Arrive Pelican Island 12:30 appr. Looking for Californias. Hot, clear, little wind.

At least two pairs on island, possibly another ♂ seen.

Oposture (3rd phase) of the TCP, and the Oposture by itself, without toning, much more vertical than that of Herring Gull apparently (Have seen it well in at least 2 birds)



HD posture may be less extreme than that of either the Herring Gull or the Ring-bill — less down under the forearm, higher, more forward.

Choking like Herring. Usual toning. Upright (wood → dog) like Herring Gull

California, May 11, 1955

II

These birds seem to be slyer than Ring-bills. Of course, they seem to be in the pre-incubation stage, and many of the Ring-bills are broody, but the difference appears to be somewhat more than this.

Bob back 1:40. So major panic.

May 13, 1955

Annie Pelican Island 12:00 noon. Warm. Overcast. Mod. wind. Looking for Californias. Find pair, then a solitary bird 12:30.

Again see Ch., just like Herring in form, preceded by PCC or M note (can't hear). Also see TCP (not well), V and HF.

O definitely high. Can confirm this again & again. Perhaps not always however.

Usual FB pattern.

Ram 12:33.

These birds seem to be in an earlier stage of the breeding cycle than most of the Ring-bills. Have favorite spots which they defend, but don't stay there very long. May have several favorite spots. In the pair, the ♂ doesn't respond to the ♀'s FB with anything more than regurgitation.

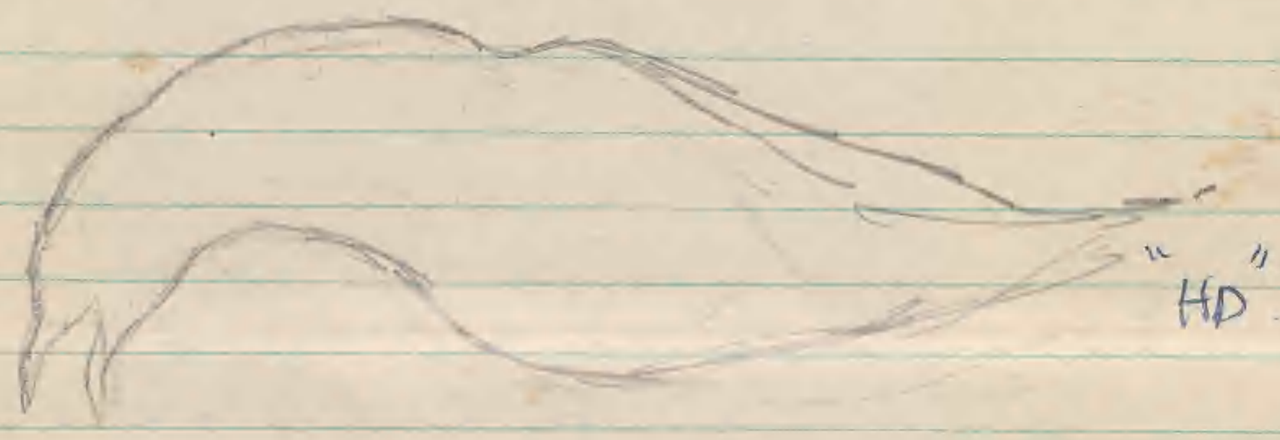
All gone now 1:32. Back almost immed.

Choking by ♂, the minute the ♀ approaches him with one or two T's, apparently FB

California, May 13, 1955

II

Cop attempt. Preceded by mutual T. Both birds in semi-V, most of the time. ♂ stands for a moment after mounting, then starts to flap wings. ♀ T's once or twice after mounting takes place, then starts to run. ♂ falls off. ♂ stands in V. ♀ V-HF-HF-HF (side to side) ♀ then dashes at Ring-bill approx. 5 yds away — apparently redirection. Does "HD" after attack (Like all the "HD" I have seen, it is almost an L). ♂ doesn't take part in dispute. ♀ back, walking in V (with eyes half-shut, lower eyelids very conspicuous). Does T from V when she reaches the ♂ 2:53



Head seems to be rather exaggeratedly this shape when alert, in many V's, and LV postures

Head appears distinctly less "fluffy" than that of the Ring-bill

Grey of mantle slightly darker, than on the mantle of Herring or Ring-bill. Difference not conspicuous

This is a long-low species in body shape. Long neck. Small head

California, May 13, 1955
III

After attack, (with R — cut) think a "comfort" R, as the bird had been battering, and then shuffled around after the V)

Leaving 5:00 p.m.

May 16, 1955

Arrive Pelican Island ca. 11:00 a.m. Californias finally show-up ca. 12:00. Very inactive.

Have LCN with imp O (of the semi-c hind)

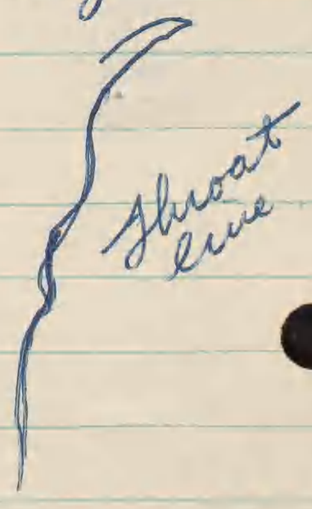
Choking seems to be unusually common in these birds — unusually common, that is, in comparison with HD-O and V.

Still — all the TC performances I have seen have had only 2 phases HD-O. Is this just low-intensity.

Another cop. attempt — unsuccessful. Not much new to add ♂ definitely opened mouth when mounting — as if uttering cop call. Mutual T; ♀ in very aux. V, much HF, eyes half closed ♂ does reduction attack after being thrown off 3:53

Again HD-T. Could hear call this time, although not too close. Voice seemed intermediate between delawarensis and argentatus. Purer than former, hoarser than latter.

Lines on lower mandible during O



California, May 18, 1955

I

6:00 p.m. Pelican Island.

Backward Oblique toward bird (Heermann) on ground

Also posture like V, with bill open very wide. LCN? RC? M?

HD-O is certainly the typical, i.e. common, display toward flying birds.

HD is certainly not very low. No lower than L

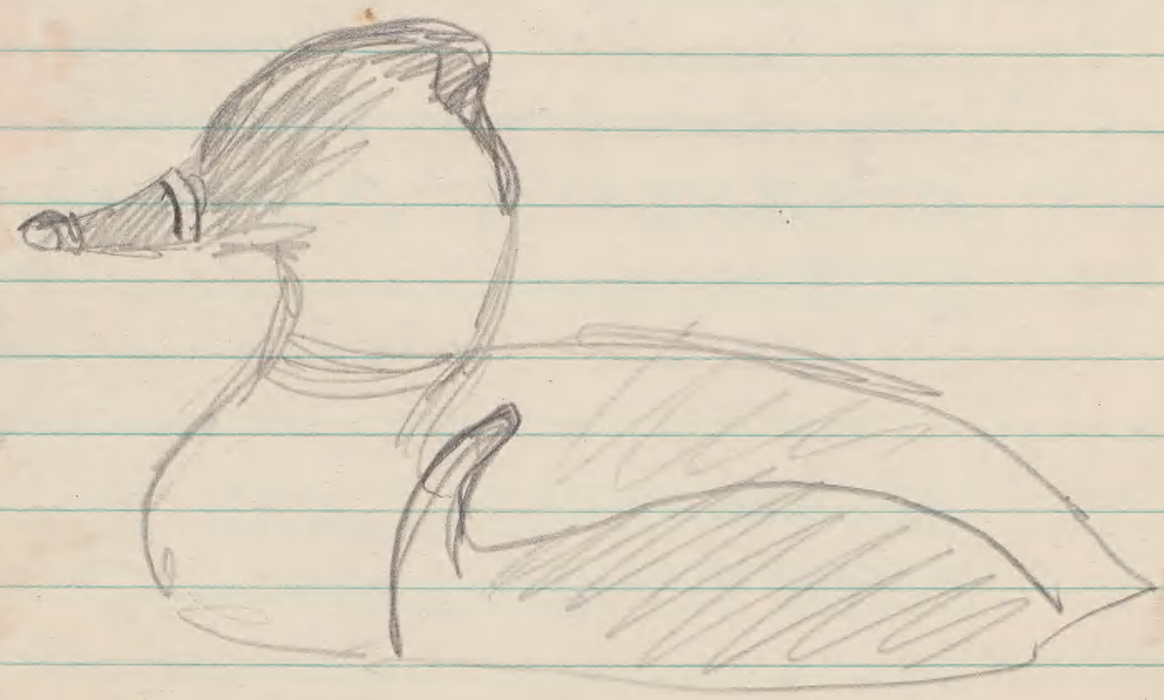
California, June 19, 1955,

I

Dog Lake. Pelican Island.

Watching ♂ California eating pelican eggs, when a Herring Gull approached. The ♂ California first started to retreat, then rushed toward Herring Gull, giving "Mew" Call. Just like my dreaming of Mew Call in Herring Gull. But the head inclined more strongly downward, so that the lower mandible parallel, and almost touching, the neck. Sound itself could be transcribed as "Waaaaaarh." Not very loud. This "Mew" Call was obviously very hostile, probably relatively aggressive. It certainly caused the Herring Gull to retreat.

Also saw Mew-Call – Gape before attack – V after attack performance.



atricilla

Chincoteague Bay,
May 25, 1956

Have seen quite a lot of (usually) low intensity aerial behavior — from time to time — in Sinepuxent Bay and in the colony on the island here today.

There is a definite aerial L.C., quite common in various circumstances, (I was quite surprised to find out that it is a common reaction to pot. preds., i.e. us, in the colony). The sound of the call is apparently the same as that of the ground L.C., although it may be abbreviated somewhat, and I am not altogether sure that the preliminary huff notes (see below) are always included. Usually given from a glide like that of Franklin's Gull, from the same postures. I have, however, heard 3 or 4 aerial L.C's which were accompanied by wing-beats, and seen a few more in which wing-beating resumed before the call was completed. Most of the aerial L.C.'s do not include the subsequent "T" note. The few I observed which did include the "T" note did not include any aerial T movement

The usual aerial LCN is rather peculiar. Bisyllabic: "Kaw-up". Might be an "alarm LCN", but perhaps just low intensity. Given from the usual unvitualized postures. I have heard a few, longer, monosyllabic aerial LCN's, which might possibly be transitional to PCC notes or notes intermediate between PCC notes and LCN's.

This bisyllabic LCN of the Laughing Gull is very reminiscent of the "Kayek" notes of the Gull-billed Tern.

I have seen a few low intensity, brief, pursuit-flights, with and without the usual low intensity swooping and soaring movements. These were probably not the most extreme forms of these patterns in the species, but they were at least recognizable. Unfortunately, they were all too far away from me for me to be able to hear the accompanying calls, if any

I have heard several long, plaintive notes given by birds in

atricilla, May 25, 1956, II.

air. These sounded very much like low-intensity PCC notes of Franklin's Gull. One of these notes was definitely given by a gliding bird, disturbed by our presence in the colony!! (And it is possible that one other of these notes was also given by a gliding bird in similar circumstances). I couldn't see the postures and/or movements accompanying the other usual PCC notes I have heard.

These birds have a typical Hydrocoloeus-type Al.C. One, two, or three syllables. Usually very sharp. A few of the bizyllabic AlC's intergrade with the bizyllabic LCN's — & vice versa.

This species has a definite "Attack Call". Given by birds attacking or swooping at other flying birds when the whole flock is flying near us. A shrill, rattling scream "Karreeeeeeee" rrrrrrr sort of thing.

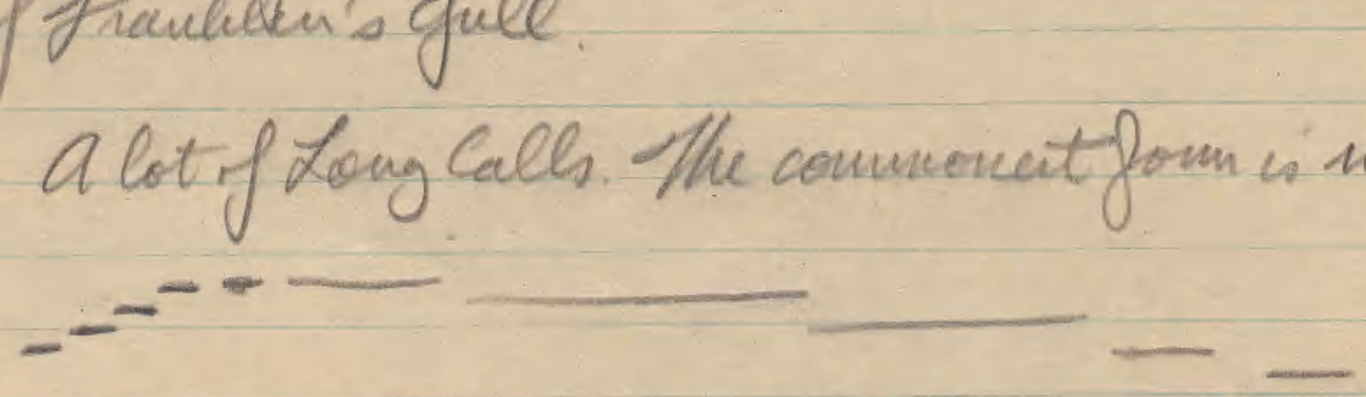
I have also heard a few notes, by birds swooping at other birds, which were intermediate between the PCC notes and the extreme attack note.

When we walk into a colony, the birds "circle" us in the usual large fashion (but they aren't as disturbed as they might be expected to be — no attacks on us).

I have also heard a number of calls on the ground — without being able to see them.

A lot of notes that sound like the ground (i.e. short) PCC notes of Franklin's Gull.

A lot of Long Calls. The commonest form is more or less like this: some of



the Long Calls seem to lack the preliminary brief notes, but this is relatively rare. Some of the Long Calls include many more long notes in the second half — rather like some of the L.C.'s of the Ring-

atricilla, May 25, 1956, III.

bill. They are relatively rare but actually not uncommon.

General note about the voice of this species. In spite of various minor differences, it sounds remarkably like Franklin's. Perhaps a little harsher at times; but even this is dubious.

I think that I have heard a few Laughing Calls like those of Franklin's Gull, but I am not certain of this. But I have definitely heard & seen several birds land with a complete L.C. (of the relatively brief type

Chincoteague Bay,
May 26, 1956

atricilla

Can confirm a few points

Yes! The aerial L.C. is almost always the type described on the preceding page. First issuing, then declining.

During the general confusion when the birds return to their nests after a panic, there are a number of little, long, swoop-attack-soar and/or rise performances, presumably by birds repelling "trespassers" flying too close to their territories. Possibly also redirection. Any how, the brief swoops are often accompanied by "attack calls" like those described on preceding page "Kareeeeeeee" sort of thing.

I suppose that the bisyllabic aerial LCN's of this species (and also, to a lesser extent, of Franklin's Gull) may be connected with the bisyllabic LCN's of the Little Gull.

During the general confusion after a panic, many birds will hover over their nests and utterad quite long, rather melodious, quite monosyllabic "Kow" notes. Are these "Plaintive Long Call Notes"? Probably

February 16 thru 19, 1954, Bronx Zoo, More or less a "Communal area"
March 28 thru 31, 1954, Chincoteague Va., " " " "

Neither Nor

Laughing

U	3	18	= 21	
LCN	50			
O	22	5	= 27	109
OLO	64	18	= 82	
HFB	96	21	= 117	
HF	1	2	= 3	

Bud in OLO attached + 11

Bud in U attached + 1

By attacker after attack

U	1	7	= 8
LCN	1		0
O	0		0
OLO	0		0
HFB	5	2	= 7
HF	0		0

By escaper before escape

U	1
LCN	0
O	0
OLO	0
HFB	0
HF	0

By attacker before attack

U	0	4	= 4
LCN	0		0
O	0		0
OLO	1	3	= 4
HFB	0		0
HF	0		0

By attached after being attached

U	4
LCN	0
O	0
OLO	0
HFB	0
HF	0

Pratt's Jan 27, 1955

Hearly "Chirrup" when disturbed by hand Grouse
Again Again No particular posture, except slight stretching of neck
Again Forward stretching of neck, plumage sleeks. Followed by ruffle
Sound sometimes "Chirrirrup."

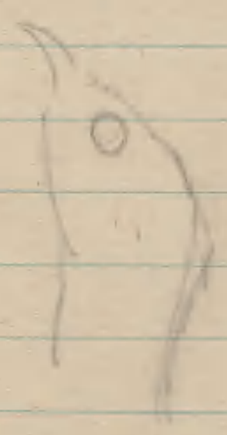
Twitter often with bill closed, but I haven't seen any high intensity forms this morning

"Chirrup" occasionally double: "Chirrup Chirrup"

Almost all movements, however, followed by ruffle

Twitter is a "melodious" twitter. Low intensity, bill closed, only two or three syllables

Higher intensity (and/or more aggressive?) forms of twitter with bill open. Again sometimes 2 or 3 syllables only



One "Chirrup" portrait

Doing a great deal of "Chirrup" ing this morning. Why? "Chirrup" must be low intensity. Lower than twitter?

Bronx Zoo
February 16
1954

Annie Laughing Gull cage 8:40 a.m.

Both Oblique (& Low-Oblique) and Vertical FB shown by Hudson perches toward flying birds

Notice again how much the Long Calls of the Laughing and Ring-billed are similar.

Birds not active 8:43

One definite sentinel sequence O-(LO) — HFB — HF — Cpr. (One of these two birds has an almost complete hood, other in complete winter plumage) 9:38

O often without LO

O often without HFB

HF often single, rather than repeated

Cpr seen again & again

Have seen HFB — O — LO — HFB — HFB.

Double HFB not uncommon

Occasional Long Call Note with barest trace of O

Two HFB's without any form of O Again, this time possibly preceded by Long Call Note

LCN — LCN — HFB — O — HFB

General tendency for "opponents" to face one another during O.

HFB lower intensity than pure O?

LCN — HFB — HFB — O — HFB — HFB

This LCN often done in completely relaxed, hunched-almost, posture

LCN — HFB — LCN — LCN — O — HFB

Certainly, the LO usually accompanies a long O

Seems quite able to precede HFB

Start Count.

February 16, II

One O, followed by LO

O — LO — HFB long pause HFB pause HFB pause O — HFB

*

HFB after attack Ó OLO OLO HFB HFB HFB Ó LCN LCN OLO HFB HFB OLO HFB U

HFB after attack LCN

February 17

Anne 8:15 Ram. Calder. Gulls on perches as usual.

Ó HFB Ó HFB HFB HFB OLO OLO HFB HFB OLO HFB OLO HFB HFB OLO HFB HFB HFB Ó HFB OLO HFB OLO HFB

HFB (definitely by itself)

OLO HFB LCN LCN LCN LCN LCN OLO HFB HFB OLO HFB

(Definite O's and Long Calls toward flying birds, every now and then)

LCN OLO HFB LCN LCN LCN LCN OLO (advancing rapidly) HFB OLO Ó HFB HFB HFB OLO Ó HFB HFB HFB HFB OLO LCN OLO HFB OLO LCN HFB LCN LCN LCN LCN HFB HFB LCN LCN LCN LCN LCN LCN O LCN LCN LCN

HFB after attack

LCN HFB HFB LCN

February 18

Annie 7:35 Sunny Cool

OLO bird attached O^1 OLO^2 HFB HFB HFB HFB^4

(last 3 alone)

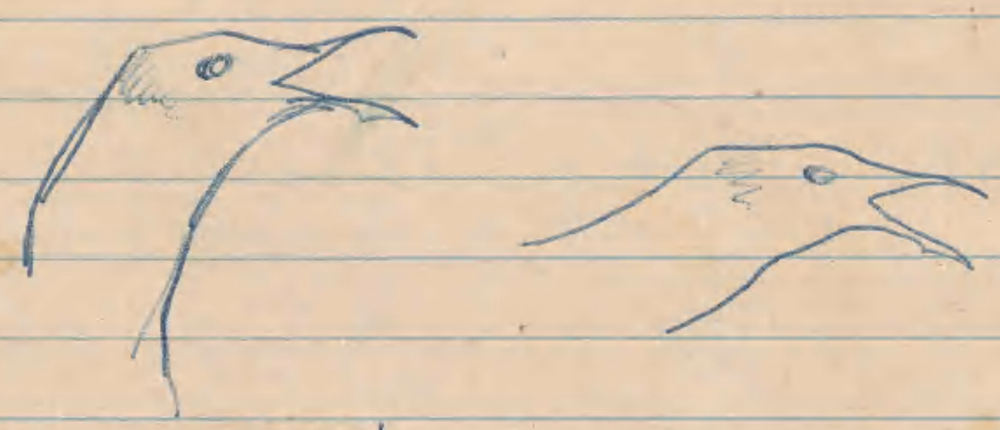
One bird utters discontinuous series of short, rather plaintive, "mmm"s. Accompanied by some slight head-tossing. Is this time of real FB? No response anyhow.

LCN^1 OLO^3 HFB HFB^6

Two birds sometimes together, one class OLO-HFB-HFB-V (more or less aux) — HF Sunny. Other bird does OLO-HFB HFB — some V Sunny. Two birds not very well synchronized.

OLO^8 HFB^9 LCN LCN LCN OLO^8 LCN^8

Preparation or low-intensity attack



HFB after attack ^{4} HFB O^1

Attack call? Hank "Angh Angh"

V before escape O^3 O^6 LCN^6 - HFB^{15}

O^{10} HFB HFB^{10} (This O long sustained but still without an L element) OLO^4 - HFI - HFB^8 OLO^7 - HFB - HFB - V - HF (Pouring?) OLO^8 OLO^7 - HFB^{15}

O^5 LCN^1 LCN^5 LCN^1 LCN^{10} LCN^{11} O^6 OLO^{10} LCN^{12}

LCN^{13} - HFB - HFB^{17}

February 18, II

LCN LCN—HFB after attack HFB after attack
OLO OLO-HFB LCN LCN O OLO-HFB OLO
LCN U LCN LCN LCN OLO OLO OLO OLO OLO
OLO OLO OLO OLO 13 HFB's OLO OLO-HFB
LCN O O OLO HFB HFB HFB HFB
OLO O HFB HFB O HFB OLO HFB HFB
HFB-HFB-OLO-HFB-HFB OLO-4 HFB's

February 19

Anne 7:40. Gulls doing nothing, as usual.
OLO-HFB-HFB-HFB OLO HFB U (any) after attack OLO Numerous examples of silent attack int. mov

OLO-HFB OLO-HFB-HFB O-HFB
(One bud, possibly involved in pairing, does
U-HF-HF-U-O-HFB (in U)-U-HF relax.)
OLO-HFB O LCN-OLO O OLO HFB-OLO-HFB
OLO-HFB OLO-HFB OLO-HFB OLO-HFB
HFB-HFB-OLO-HFB HFB (by itself)

March 28

March 29

Single bird alone. OLO-HFB-HFB toward flying birds.

Same bird, B, (OLO?) Does OLO-HFB as another approaches. Then U-HF after latter lands. Latter does U-HF ruffle? Latter flies off. They, in air, associates with third bird. Both birds fly around, occasional chase or glide, (horizontal, more or less), never vigorous. B does occasional O-HFB or OLO-HFB when they fly nearby.

Third alights, some distance away. Jitters A off. Up. Both fly around. Second bird back to B. Jitters A off. Both U HF? No sound at any time. Ruffle. All break up 10:47

General Notes

Very similar arrangement to BLG. When two birds go through MC, one or both then fly away, sometimes circle back. Not much aggressiveness, during these circular flights, however.

B does O(LO?)-HFB as another bird lands beside it. Farm. Then B attacks newcomer. U-HFB-U after attack.

Three flying about together. Silent. Lead changing 2 bird. Mutual OLO-HFB-U-HF (almost certain) - third lands. Immediately driven off by violent attack 8:10

U after attack	Bird in U attached
OLO-HFB to flying birds	U after being attached
OLO before attack	

March 29 II

Typical mutual ceremony is something like OLO--HFB (often repeated) — V and HF (motion different from BhG) — Cpr and/or perching at the ground — flying up, with usual long call (also typical Long call, I think, and, possibly HFB call) — return.

Certain no hoop, hoar. Probably no ritualized glide. Obvious aggression during HFB.

Nice pairing behavior on usual communal area. Two ♂'s on ground. Visited by ♀'s. (One ♀ visits one male after the other). Mutual ceremony. Notice that the OLO of both ♂ & ♀ is dominant to ♀ ♂'s, and that all, or almost all, the V's are "Aux" types). Three times ♂ followed MC by attaching ♀. Each time ♀ flew off in circular flight, (one time a ♀ began by giving aerial Long Call and flying at a neighbor) 8:55

This "communal area" is a mudflat exposed by low tide. Quite near the colony area proper.

OLO-HFB very common toward flying birds. V common as flying bird comes in to land

OLO before attacks HFB after attack. Then, usual, V-HF (like BhG). 9:00

There seems to be no Landing Call.

None of the aerial "chases" seem to be very aggressive, or even moderately aggressive, by BhG standards 9:15

March 30

Early Warm, windy, overcast. Sun
Gulls small, down in colony area ca 8:30
B back, but D can't see A

(Yesterday afternoon it turned very windy, colder. Gulls disappeared gradually around 2:00 p.m., and didn't come back)

Pair A, apparently ♀ HB mg with HB ♂ in V ♂ flies off, lands, ♀ follows, mutual OLD-HFB-V and HF. ♀ HB again, ♂ in V, ♂ flies off, lands (third spot), ♀ follows, mutual V and HF, ♀ leaps with HB (Her begging constantly interpreted with flap movements, nervous and jerky), ♂ flies off, ♀ follows 8:35

All sorts of rival chasing. Difficult to follow. Small, two birds, exchanging role of pursued and pursuer, short, silent, occasional antiphonal by Pursuer (look hostile & actually aggressive) Occasionally one bird always the Pursued? Odd birds beside others, then flies off closely, third, and sometimes third bird and Pursuer (original) begin chase 9:01

Apparently there is a Landing Call Rare form of flight Call notes, descending in scale

Communal area
OLD before attack After attack 9:32
OLD-HFB-HFB-V OLD-HFB-HFB OLD-HFB OLD-HFB

March 30 II

U U U Very quiet now, 9:58, in communal area. All asleep. Sun shining through clouds. OLO-HFB
OLO-HFB-HFB-HFB O

HFB after attack U after being attacked O
Still very dull 10:47
U before attack U after attack U OLO-HFB
OLO-HFB. U O 11:00
U O U before attack U after attack O OLO-HFB-U
OLO-HFB-U OLO-HFB-HFB-HFB U before attack U after attack Bud in U attacked U after being attacked 11:27
OLO-U OLO-U U OLO-HFB OLO-HFB-U-HF
OLO-HFB-U Bud in OLO attacked Bud in OLO attacked
U after being attacked U before attack U after attack O
11:48

Tide Coming in
Leaving 12:17

Gulls, with a very few rare & brief exceptions, are gone from colony and communal areas in the afternoon. Sunny, but very strong wind.

March 31

Arrive colony area 6:00 a.m. Cold cloudy strong N.E. wind. Tide very high. A few gulls only. Quiet.

First really interesting case. ♂1 on ground ♀ (and, complete MC) ♀ flies off. Chased by ♂2. Two obvious aggressiveness ♂2 and ♀ both land together, almost simultaneously. Complete MC. Much th. ♂2 flies off. Circles back to ♀, who has unmated meet at same spot. Mutual U-HF-Cpr (much). ♂2 flies off. Circle. Disappears from

March 30 III

[illegible] When I look back & realize gone 9:30

Chars

Reversible, but rare

One bird may be provided in one chase, pursues in another chase immediately following

Some chases clear cut or un-beaten

Other chases include long call and/or sudden accelerations

Loops

Some chases begin in air (e.g. launched after display)

Some chases seem to follow-bait off the ground (as ⊂ >)

Chase

Some obviously hostile. Some more perplexing; (sexual element ??).

Some very placid. Just two birds, (pair ?), flying about together.

Others include aerial Long Calls and (probably) complete Long Calls and (possibly) HFB calls.

Some include sudden accelerations by Pursuer. The Pursued avoids them by slight soaring or side-slipping movements — obviously unintentional. Pursuer then soars or side-slips also. Result is that Pursuer falls behind again.

Most chases involve two birds. Some involve three; (pair plus "cavaliere servente")

Roles are rarely exchanged, but the Pursued of one chase can become the Pursuer of an immediately following chase.

Beginnings of chases obscure. Some just begin in air. Various suggestive cases are different (1) Presumed ♀, after MC with ♂ on ground, flies up and is chased by third bird. In one case, the presumed ♀ landed and had MC with this third bird. (2) Possibly, a presumed ♀, after chase with presumed ♂, lands beside a second presumed ♂. She is attacked immediately and then flies off. Second ♂ follows. Result is Pursuit Flight involving the two males and not the female

Thursday
August 12,
1954

Watching Laughing Gulls in flight cage of Bronx Zoo.

Notice Ruffle in several cases without real Ch.
(1) After lunch, after OL, in T and particularly H.
(2) After lunch, after OL, in V with ones PRo (this latter may have been Ch int. mov., but certainly no normal or characteristic Ch movements
(3) OL, pause, rush in V with Ruffle, stop, stands in V with Ruffle.

All these cases during disputes with large bands of other species

A

Laughing gull ABC like large Larus

Ha Ha Ha Ha! Syllables slurred, not as distinct as there in the corresponding call of cuspidatus

Herring

March 16, 1955

6:20 a.m. Chincoteague marshes. Overcast. Warm.

♂ Herring Gull on territory on station, small clump surrounded by water. Does L.C. in O as ♀ lands behind him. ♀ does L.C. in O as soon as she has landed (i.e. the female is behind the male in her reactions). Then ♂ does U-HF. ♀ very nervous, jumpy, flinches, may have shown traces of a display we missed, then does U-HF. ♀ flies up. ♂ stands, relaxes, starts to preen.

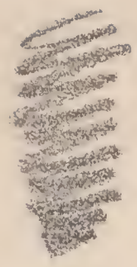
This is all very reminiscent of the pairing of the hooded gulls.

Single bird, apparently on territory, gives M, flies a few feet, lands again, gives series of M notes, stands. 6:45.

March 17, 1955

Chincoteague Marshes 6:42 a.m. Herring ♂ (?) on water joined by ♀ (?). ♂ does U-HF. ♀ flies off.

Watching Ring-bill, 4:30, alone, on oystershells. Gives a few LCN's as she flies



Ring-bill flies near
stop or two, flies up
more of flying up

Then $\frac{R}{R}$, gradually takes a
D.E. $\frac{R}{R}$ leads the int.

Evening

March 19, 1955

6:27. Chincoteague Marshes. Cloudy, cool. Little wind.

Incident much like that of March 16, (couldn't see it well), with the addition of one T by ♀. Evoked by ♀ flying, and she then goes long distance and lands, disappears from view.

7:25. ♀ comes in to join ♂. ♀ flying, with a few LCN, ♂ on territory standing in V, does HF away from ♀ long before she comes near. Then ♂ into HD with LC, just before ♀ lands. ♀ goes into HD right upon landing. Both then O with LC. Then both V. ♂ flies up. ♀ stands in aux. V. ♀ flies up. They circle. Vocalizing together. ♀ utters quite a burst of LCN's. ♂ a few LCN's, probably a series of M notes. Land together, (not in same plane). MC little more than mutual V, as far as I can remember. ♂ flies off. ♀ stands in aux. V. ♂ circles, probably gives complete or almost complete LC. ♀ flies up. Starts to circle. Then vigorously chased by third bird. This third bird then leaves. Chase gets confused. I think the roles were reversed, and the ♀ chased her original chaser. Then, I think ♂ and ♀ land together in distance. Probable another MC.

Herring

March 20, 1955

5:55 a.m. Chincoteague. Cloudy. Moderate T°, tide high.

Herring on ground does HD-O toward flying birds.

♂ Herring on ground, feeding. 6:25 ♀ flies near. ♂ does HD-O ♀ lands ♂ still in O after she lands ♀ aux. V, HF, aux V. ♂ in V. ♂ back to feeding ♀ flies off, joins another ♂ on water, does M.C. with him

Another M.C. ♂ does O (couldn't hear call) – V and HF ♀ does O – V and HF – H and T, flies off disappears

Single bird on ground. Gives notes in ⊥ to flying birds These notes probably M, but we couldn't hear them.

M after attack V after attack
V-HF after attack

HD-O toward flying birds (with LC)
V. O (with LC) before attack V after attack

Herring.

March 20, 11

The whole pairing or pair-formation process, as we have seen it, it is very much like the pairing of Black-headed Gulls or Little Gulls before the occupation of the actual colony area. Semi-territorial and aerial.

Solitary birds, presumably single males, pick out stations, and (presumably) territories (the gulls are so scattered and scarce that this pairing is very rare and we have had little opportunity to observe actual territorial defence)

These males display at all flying Herring Gulls (apparently not at flying Ring-bills)

Some flying birds, apparently female and presumably unmated, land beside the males.

M.C. May be followed by one or both birds flying in circular flight. M.C. upon return. Return may be to a new site.

Fleming

March 21, I.

21 MAR CLINCOT. HARBOR

c. 10 am.

MOD. TEMP. LITTLE WIND. INTERMITTANT RAIN. WATCHING WELL-MATED PAIR. DON'T STICK TOO CLOSE TOGETHER. OCCASIONALLY COME TOGETHER. OCCASIONAL CIRCLING FLIGHTS.

M.C. SEEMS TO BE NOTHING MORE THAN U-HF ON THE PART OF THE ♀ EXCEPT FOR M ASSOCIATED WITH FEEDING.

♂ COMES IN TO ♀ GIVING M, ♀ ALSO GIVES M. ♂ DOES U AFTER FEEDING ♀, ♀ MAY DO SO AFTER BEING FED.

♀ DOES M TOWARD STRANGE FLYING BIRD, DEFINITELY NOT HER MATE (BUT MATE IS ONLY SEVERAL FEET AWAY FROM HER).

♂ DOING O AS YOUNG GULL TRIES TO STEAL FOOD. ♀ DOES M APPARENTLY DIRECTED TOWARD THIEF.

U AFTER ATTACK. U after attack

U after attack

♀ does U as ♂ flies overhead. Then series of M notes, after he has flown past her

Wenning March 21, II

landed 10 yds away, and begun to feed

HD – O towards flying birds.

Note about territory, etc. We have seen a number of examples of territorial defense today. Much as might be expected. Doris noticed that trespassers make no resistance, leave immediately, usually without even threatening.

Juveniles seem to be tolerated, more or less, when they trespass.

Have seen no interacting (i.e. threat or courtship) reactions between Ring-bills and Wennings. Just seem to ignore one another. (Territorial or Wennings don't even display at flying Ring-bills, even when the latter are silent. Territorial or Wennings tolerate Ring-bill trespassers

Herring

March 22,
Tuesday

6:45 a.m. Chincoteague Marshes. 70° & moderate. Wind southerly. Rain pouring.

M.C. by mating female. She makes one circular flight.

Another case 1 female circular flight

MARCH 23
CHINCOTEAGUE
MARSHES

6:05 CLEAR, COOL, MODERATE WIND.
APPARENTLY TERRITORIAL ♂ HERRING GULL DOES L (PRESUMABLY WITH M) TOWARD FLYING BIRD.

M.C. when ♂ joins ♀ ♀ V-HF ♂ V-HF-V-HF-V.

Apparently territorial solitary ♂, gives series (L5 or L6) M notes to flying bird who ignores him. (M notes accompanied by trace of L)

Apparently territorial solitary ♂, gives O, (with L apparently) to flying bird.

Apparently territorial bird gives ALC, repeatedly, in a completely relaxed posture. (The bill movements, incidentally, were conspicuous).

Herring March 23, II

Mated bird does V toward flying mate.

March 25,

6:10 a.m. Calm. Warm. Cloudy.

Herring.
♀ visits ♂. M.C. Normal part, but largely V. Men ♂ attacks ♀. ♂ V after attack. Men ♂ HF (quite extreme). ♀ V after being attacked, then stands, flies away.

2 birds fly over calling, both appear. Herring one lands. Obviously ♂ on station. Gives large series of M notes as he lands. Two other birds on ground as he lands.

Solitary ♂ Herring on territory. Ch toward flying bird.

Apparently ♂ Herrings keep their territories for days here. Or, at least, same territories are occupied on successive days by single birds.

Apparently ♂ Herring doesn't seem to object to Laughingon his territory.

Herring March 25 II

Unmated (appr. at least) ♂ Herring Gull on territory. Flaunting preening. Ring-bill flies low overhead, circles. ♂ Herring stops pr., looks, goes back to pr. Ring-bill silent all the while, flies off after circling. The Herring must, therefore, have been able to tell the Ring-bill by right alone.

Solitary Herring (adult except for black spot on bill) alone on site which may or may not be part of territory. Feeding. Does HD-O (with L.C.) as second third lands. (Second bird is juv. plumage except for almost completed adult mantle and bill like first). Stopped by time second has really landed. Stands in relaxed posture as second does O-HD-O (complete Jumpstring Call). Then second relaxes. First unmated does L with M as third lands. (Third is completed juv. except for a few spare adult mantle feathers). Third goes in anxiety V. Then three separate, feed, all relaxed, except third who remains alert. Then first does HD-O toward fourth coming in to land (first's O, at least, with L.C.). First relaxes when fourth has landed. Fourth goes into aux. V., perhaps a trace of HF. All fly off 7:22

Herring, March 25 III

One Herring of feeding pair dashes briefly at Ring-bill. Appar. aggressive; but breaks up almost before it begins.

Herring. V before attack V after attack

Herring
V AFTER ATTACK V AFTER ATTACK.

Herring. Apparently mated pair. One on pole. Other comes in, flying, fruitlessly LCN's, then M notes. Lands. M.C. of mutual V.

One Herring towards flying bird; (contr. definite L.C.)

V AFTER ATTACK.

♂ making little "circular flights" while alone. Some feeding during these flights. Some LCN's. Some attach on distant birds

Herring

March 26, 1955

Chincoteague Marshes 6:05 a.m. Moderate to cloudy. Rain. Moderate wind.

One herring lands beside the other. Both O. Then one attacks. (Thus: O before attack Bird in O attacked from O) V after attack V after being attacked. Third bird lands. Makes a series of L intention moves (with M presumably) Then in M. Then stops

"♀" Herring displays with one "♂". Flies up. Goes to another. Second ♂ in O before she lands. Then down, either relaxed, or, more probably, PAT or GP. ♀ in aux. V. ♀ flies up. Circles. back to second ♂. Both V. ♂ attacks ♀. ♀ flies up. To another ♂ (possibly the first) for another M.C.

"♀" Herring lands beside another ♂. Possibly mate. Possibly just feeding. In any case, the ♂ doesn't display. ♀ goes into aux. V.

Apparently territorial ♂ Herring. Twice flies up, apparently to chase just and/or oystbill intruders. Then, twice, lands with M notes. Stands

Morning March 2d. II

in L, with M notes, a few minutes after handling.

♀ flies to ♂ ♀ does buff O, then V-HF after handling. ♂ does display, stands, then makes attack movement ♀ jumps back ♂ in V ♀ probably buff O, then V, then flies off, lands in distant terminal area

Deming

Neither Nor.

U	7
O	16
OLO	4
L	0
GP	0
Ch.	0

By retreater or escapee

U
O
OLO
L
GP
Ch

By attacker before attack

U	1
O	0
OLO	0
L	0
GP	0
Ch	0

By Attacker after attack

U	3
O	0
OLO	0
L	0
GP	0
Ch	0

By Attached, after being attached

U	1
O	0
OLO	0
L	0
GP	0
Ch	0

Herring Gull

Lake (still largely frozen)	April 18	25 min.
	April 19	50 min

Buels in display attached.

Display of attached.	Display of attached
U I	U I O OLO L GP Ch.
O	U O OLO L GP Ch.
OLO	U O OLO L GP Ch
L	U O OLO L GP Ch
GP	U O OLO L GP Ch

Nesting, April 24, 1954,
I

Saturday,
April 24

Nesting Gull.
A few nesting on ice

Lake Manitoba,
Delta

☒ Ch. O.O. OLO. 12:10 p.m. O.O. OLO.OLO.

O without head-tossing

◉ V.V.V.V.V.O. V before attack - V after attack V.V.V.
V.V. PAG. PAG. O.V.V.O.O. V after attack.

Hemming, June 21, 1954,

I

Monday
June 21.

Pelican Island, Dog Lake

Arrive Hemming district 11:10. Cloudy. Windy. Mod. T°
Gulls down almost immediately, but very shy

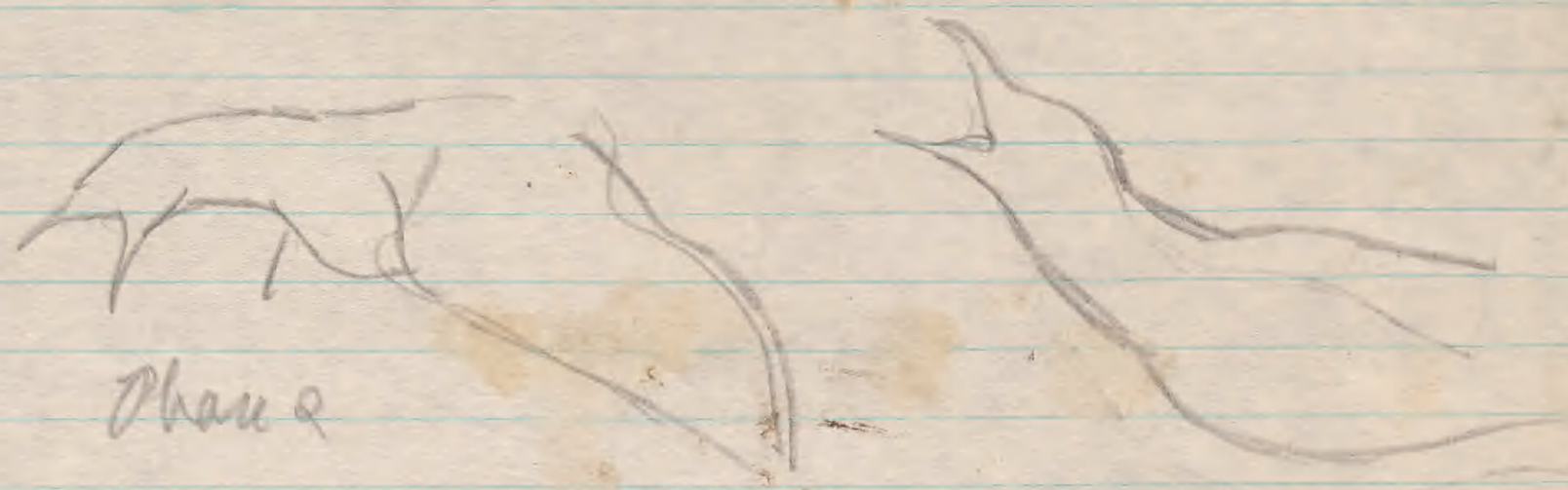
Voice during Trumpeting call is clearer, more "melodious", than that of the Ring-bill. Sounds as if it were coming from a distance.

Quite a number of birds within sight, but much more widely spaced than Ring-bills.

Feet & legs rasberry pink. Bill yellow, or orange only, but almost white lemon-yellow at tip. Red spot confined to lower mandible; (bordered on top by faint blackish spot, in one individual, but not in another). Gape angle same orange-yellow as rest of bill. Eye-ring same orange yellow. Iris pale lemon-yellow. Inside of mouth pinkish

☒ O. O. OLO. O. OLO. O. O. O. O OLO. OLO LO. OLO OLO. OLO. OLO. OLO. OLO. OLO.

Trumpet in air. Almost reproduction of ground movement. With wing-beats, I think.



Phase 2

Phase 3

Buds thoroughly inert 11:50
Pair starting 11:56

Fenning June 21 1954

V.V. V before attack - V after attack V after attack V before attack - V between attacks - V between attacks - V between attacks - V after attack V before attack - V after attack - V after being attacked V before attack - V after attack

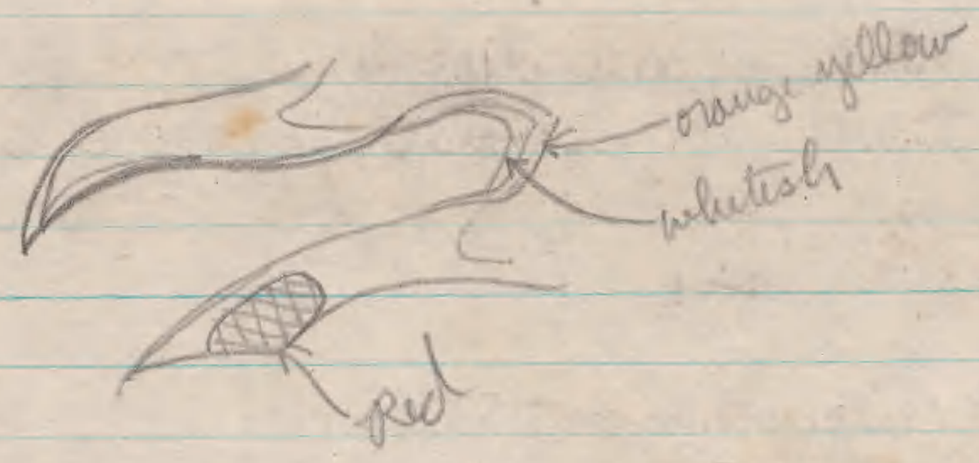
Most intense V sometimes with wings raised, preparatory to flying up

LO. OLO. OLO - M. V after attack OLO OLO OLO OLO OLO V after attack 1:21 M-Ch M-Ch M.V V before attack

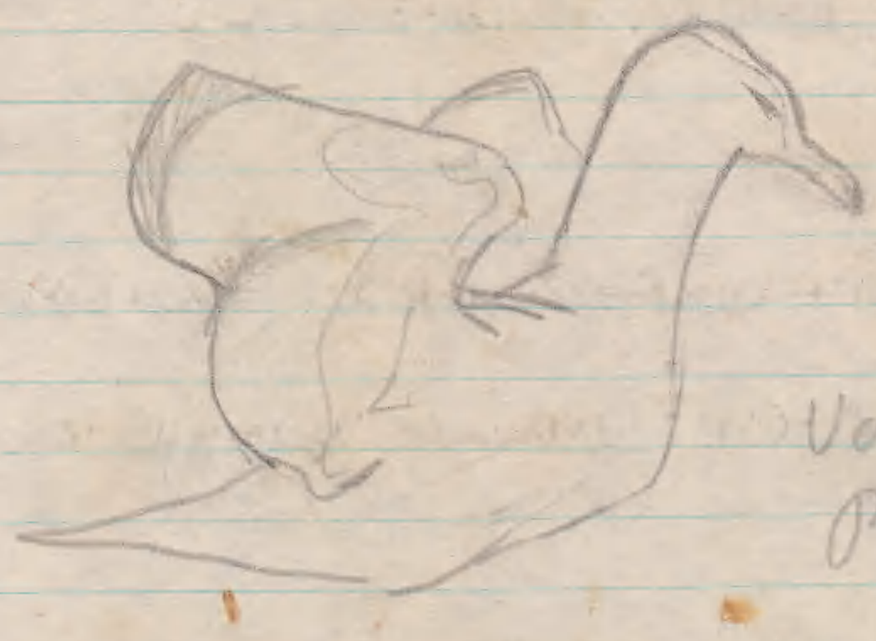
Pair (?) Meeting Mutual OLO - M - Ch - V - HF - separate again M as preliminary to Chasing

Yes! Trumpet in air definitely accompanied by wing-beats

V-HF after attack, OLO V before attack - V after attack V before attack - V after attack V before attack - V after attack



Roof of mouth and tongue rosberry pink (light)



V after attack posture

M.M.M. V after attack V after attack V. V. HF. V. V. V after attack V after attack 2:32 OLO OLO. OLO. OLO-T-T-T OLO-T-T-T OLO O. V. O.O.O. V-HF after attack OLO. OLO. OLO. LO. OLO.

Fleming June 21 III
1954

Trumpet Notes are more uniform than those of Ring-bill
Just few are longer (more widely spaced ?) than the majority.

Getting duller 3:00

Moan is much more penetrating than that of the Ring-bill

◎ V before attack – V after attack – Bud in V attached – V after being attached. V-HF after attack V after attack

Game 4:15 Boat?

Pelican Island

Wednesday
June 23

Arrive Fleming Colony 3:27 p.m. Very hot Windless
Takes a long time. New site. Buds shy

Gulls down 3:32.

◎ M before attack – V after attack. OLO after attack
OLO. V after attack. OLO. OLO. V after attack. OLO. OLO M after
attack M after being attached M-Ch before attack. V before attack
V-HF after attack V. V L.

☒ OLO. OLO. OLO OLO. OLO. OLO OLO OLO. LL. LO OLO. L. LO. OLO.
OLO, OLO O.O. O LO OLO OLO. O. O. OLO. O.O O.O.L. O.O OLO M. OO M-LO
OLO.

!! Mobbing used, after alarm, to call back the young

Still too shy to do much 3:50 Still 4:12 Still 4:37
Still 4:58

!! OLO-(V)-(HF) seems to be usual MC at this stage of the
breeding cycle. On M & sex, of course.

Fairly relaxed, but very dull 5:15

Feeding of young without M

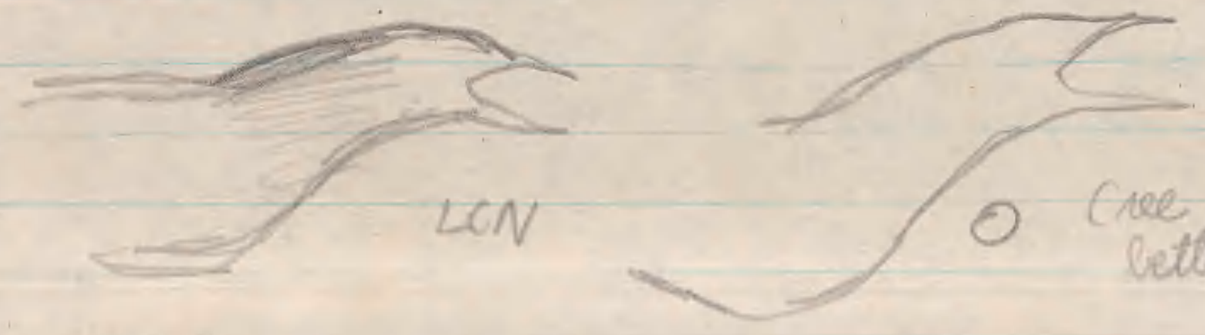
!! M, ch, and y.b., performed by bird with half-grown

Fleming June 23 1954

!! chicks, at station, away from nest. M while collecting, Ch as, and after, departing. Provokes no response in mate — for a while — then mate starts also. Obvious "friendly".
Then both run away, beside chick. Then back. Start again. Starting new nest? M particularly strong on returning from collecting trip.

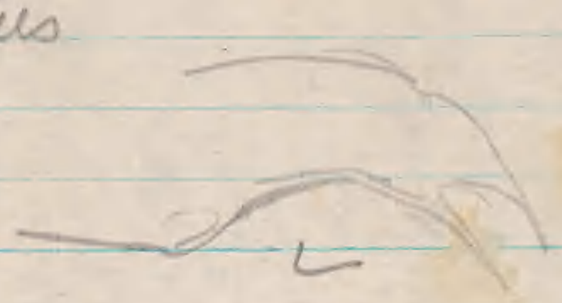
☒ O.O.O. OLO.OLO.OLO.OLO.OLO.OLO OLO. OO.O.O.OLO.OLO OLO.O. O.O.OLO.O.O.O.O.O.O.O.O.OLO. LO O.O.O.O.O.OLO. OLO.OLO OLO.OLO. OLO.O.O.

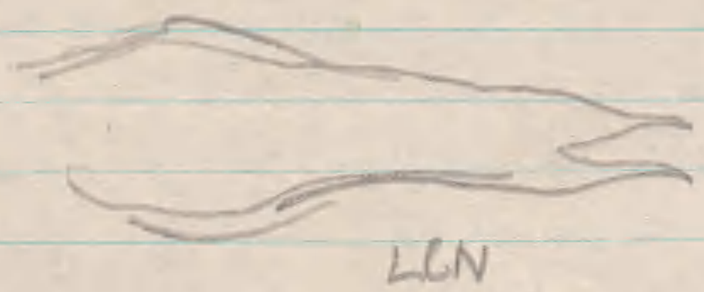
◎ OLO.OLO.OLO.V HF V before attack — V after attack OLO.OLO.OLO.OLO V before attack — V after attack M.M.M.M.O.Ch. Ch OO.OLO OLO.O V V before attack — V-HF after attack V after attack OLO.



(see previous day, better drawing)

Head & neck postures in air.





M very commonly flying beside 6:19.

7:00 Again & again it seems obvious that M is low intensity Ch.

Fleming June 23 III
1954

M postures on ground

M posture in air.

Henning, June 19, 1955.
I

Pelican Island, Dog Lake.

Swoop-Soar performance (diagonal). Apparently provoked by me, more or less directed toward me. Just like that of the Ring-bill. Accompanied by quavering Long Call Notes: "Klioo-oo-oo" etc.